United States Patent [19]

Strobe et al.

[11] **4,106,662**

[45] **Aug. 15, 1978**

[54] **EASY-OPEN CONTAINER WITH FLANGE PUSH-IN MEMBER**

[76] Inventors: **Carl J. Strobe,** 2831 Orchard Knob; **Robert A. Wells,** 4450 Harris Trail, N.W., both of Atlanta, Ga. 30327

[21] Appl. No.: **796,510**

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Related U.S. Application Data

[62] Division of Ser. No. 580,624, May 27, 1975, Pat. No. 4,023,703.

[51] **Int. Cl.**[2] **B65D 41/32**

[52] **U.S. Cl.** **220/268;** 220/345

[58] **Field of Search** 220/265–273, 220/345, 346; 222/541

[56] **References Cited**

U.S. PATENT DOCUMENTS

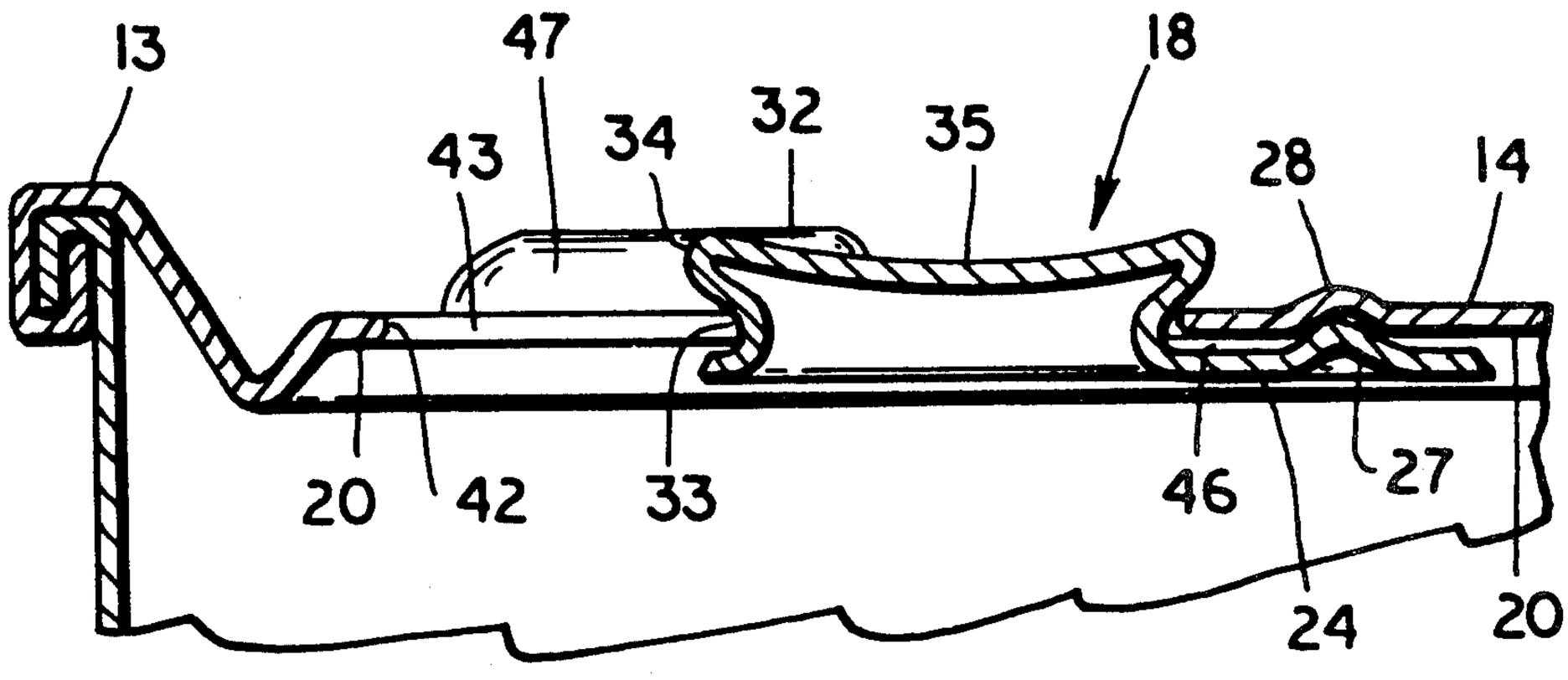
2,261,117	11/1941	Jack, Jr.	220/269
3,813,000	5/1974	Underwood	220/269
3,915,333	10/1975	Peyser et al.	220/268

Primary Examiner—George T. Hall
Attorney, Agent, or Firm—Jones, Thomas & Askew

[57] **ABSTRACT**

An easy-open container having a wall in which an openable member is integrally formed and defined by a selectively separable region. The openable member has an opening tab which is raised outwardly from the container wall, with the opening tab having a flange which overhangs at least part of the separable region. Finger pressure applied inwardly onto the opening tab toward the container wall causes the separable region to become ruptured, allowing the openable member to move inwardly with respect to the wall. Inward movement of the openable member is limited by the overhanging flange which contacts the periphery of the opening. The separated opening member is retained on the container wall and is then displaced to reveal an opening in the container wall for access to the contents of the container. Several openable members are disclosed which can reclose the opened container. The opening tab is be an integral part of the openable member.

14 Claims, 22 Drawing Figures



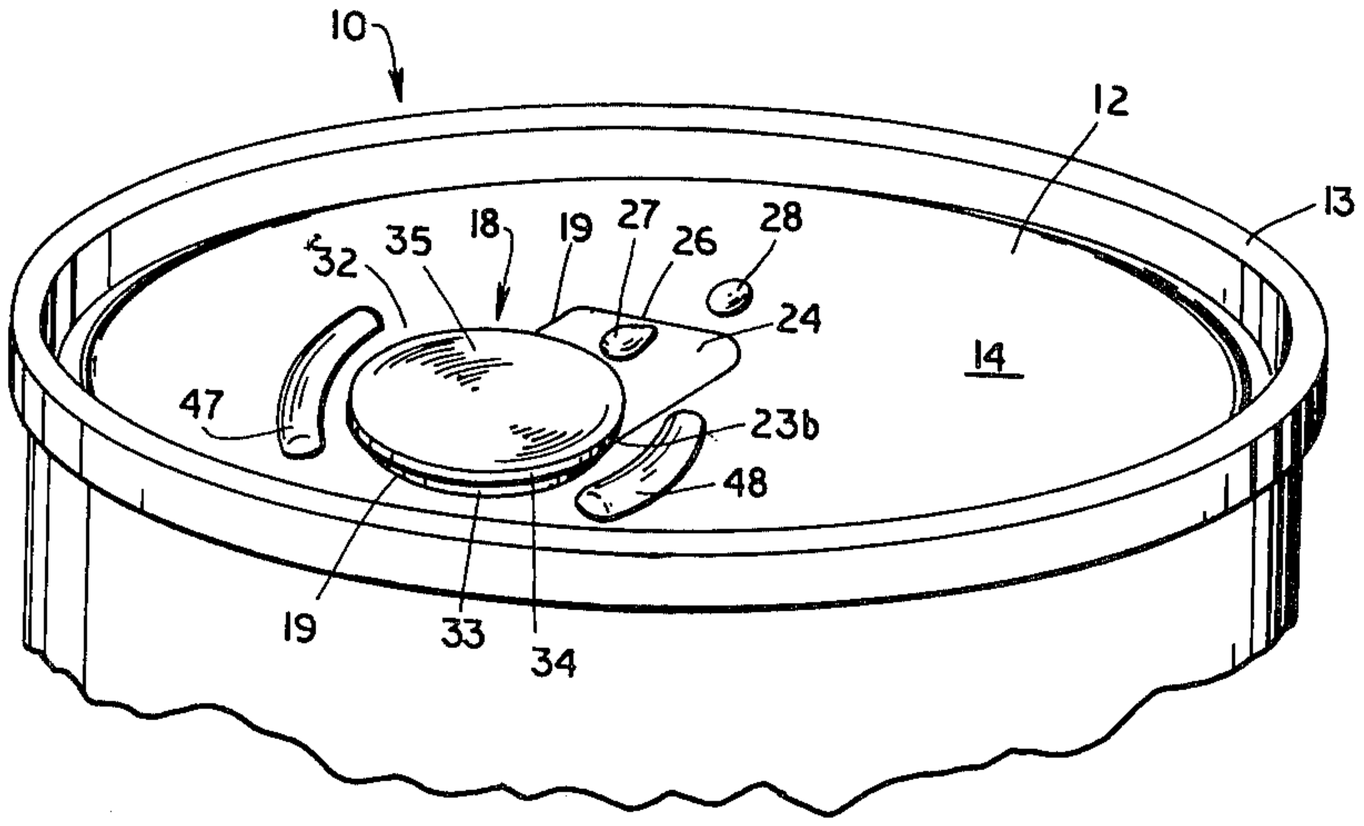


Fig. 1

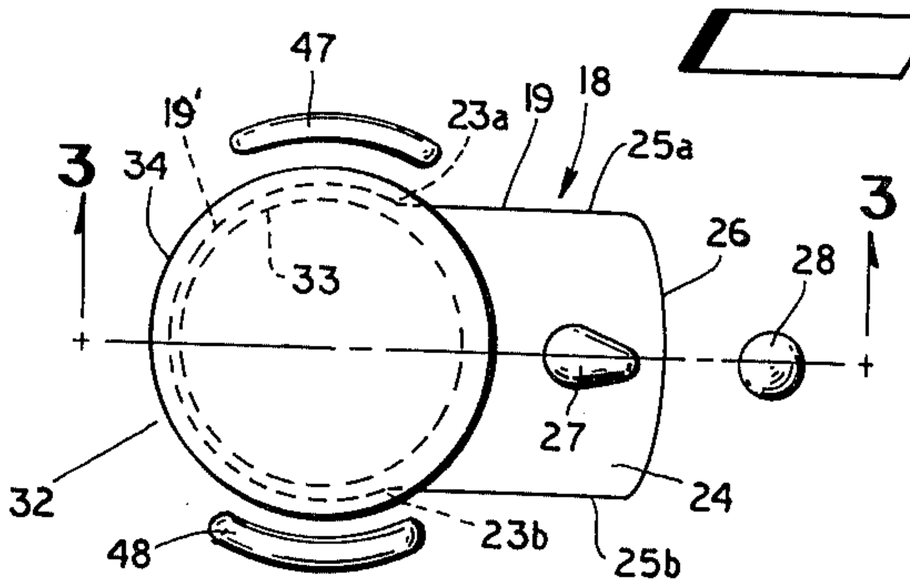


Fig. 2

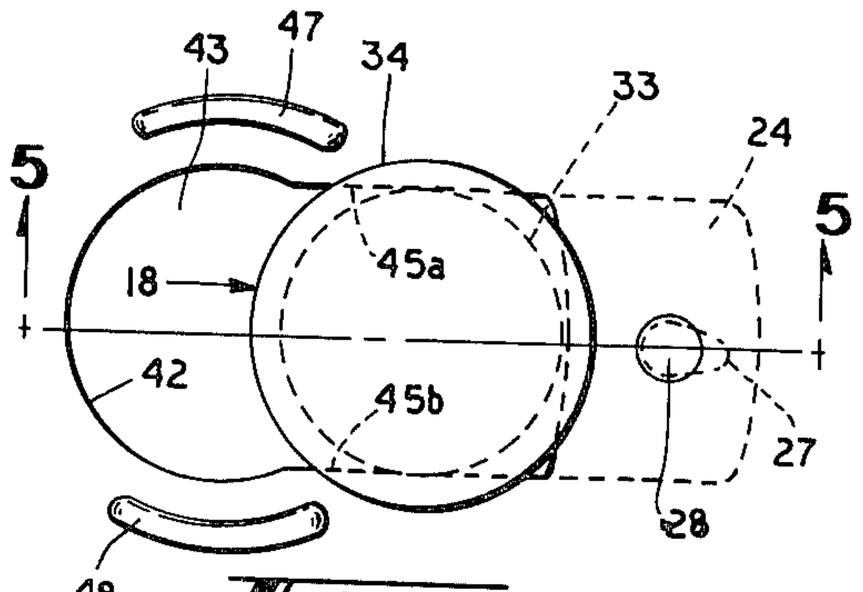


Fig. 4

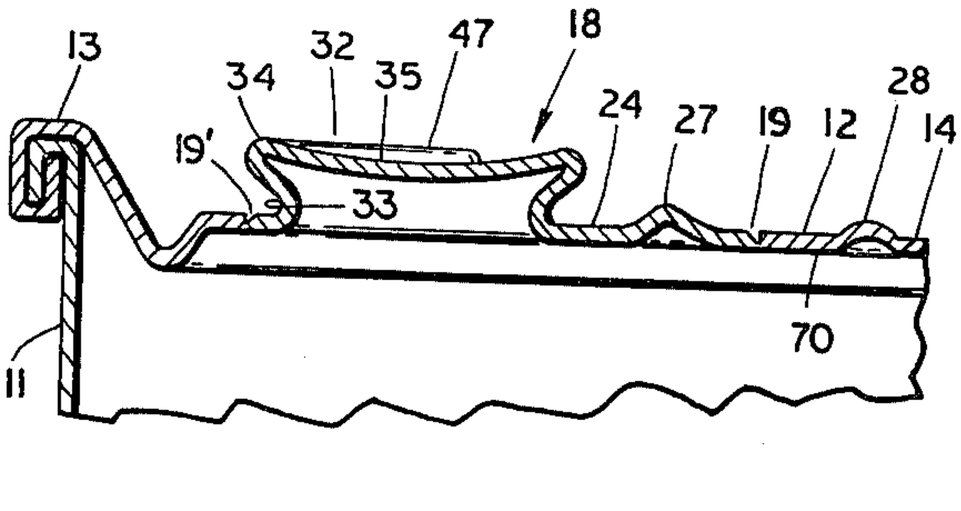


Fig. 3

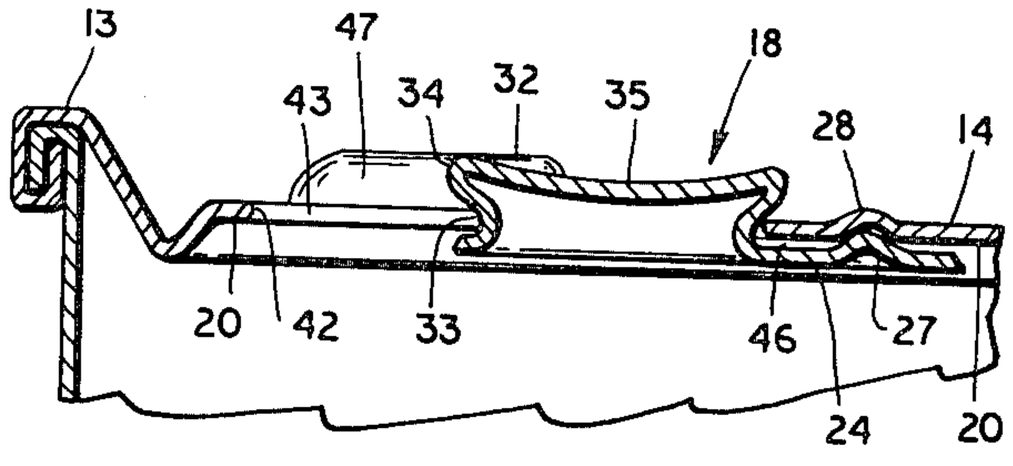


Fig. 5

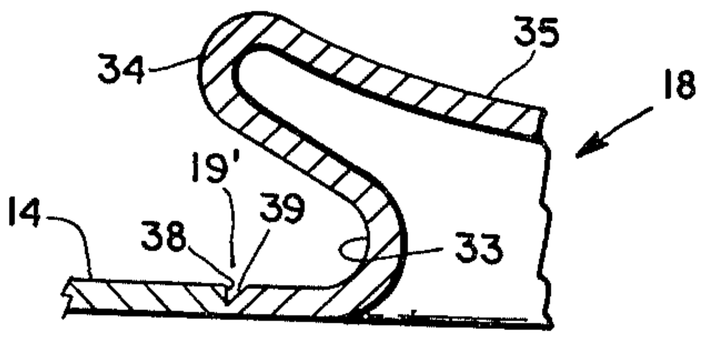


Fig. 3A

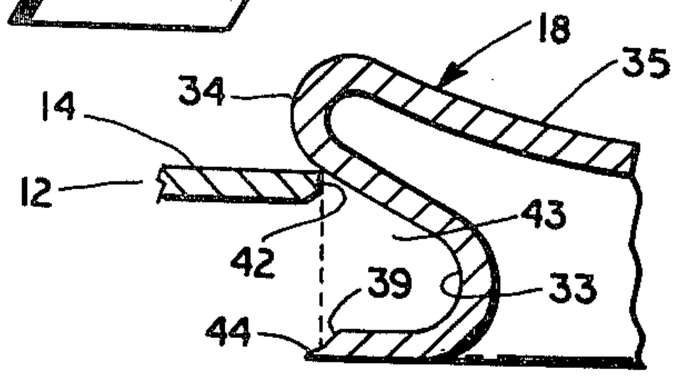


Fig. 5A

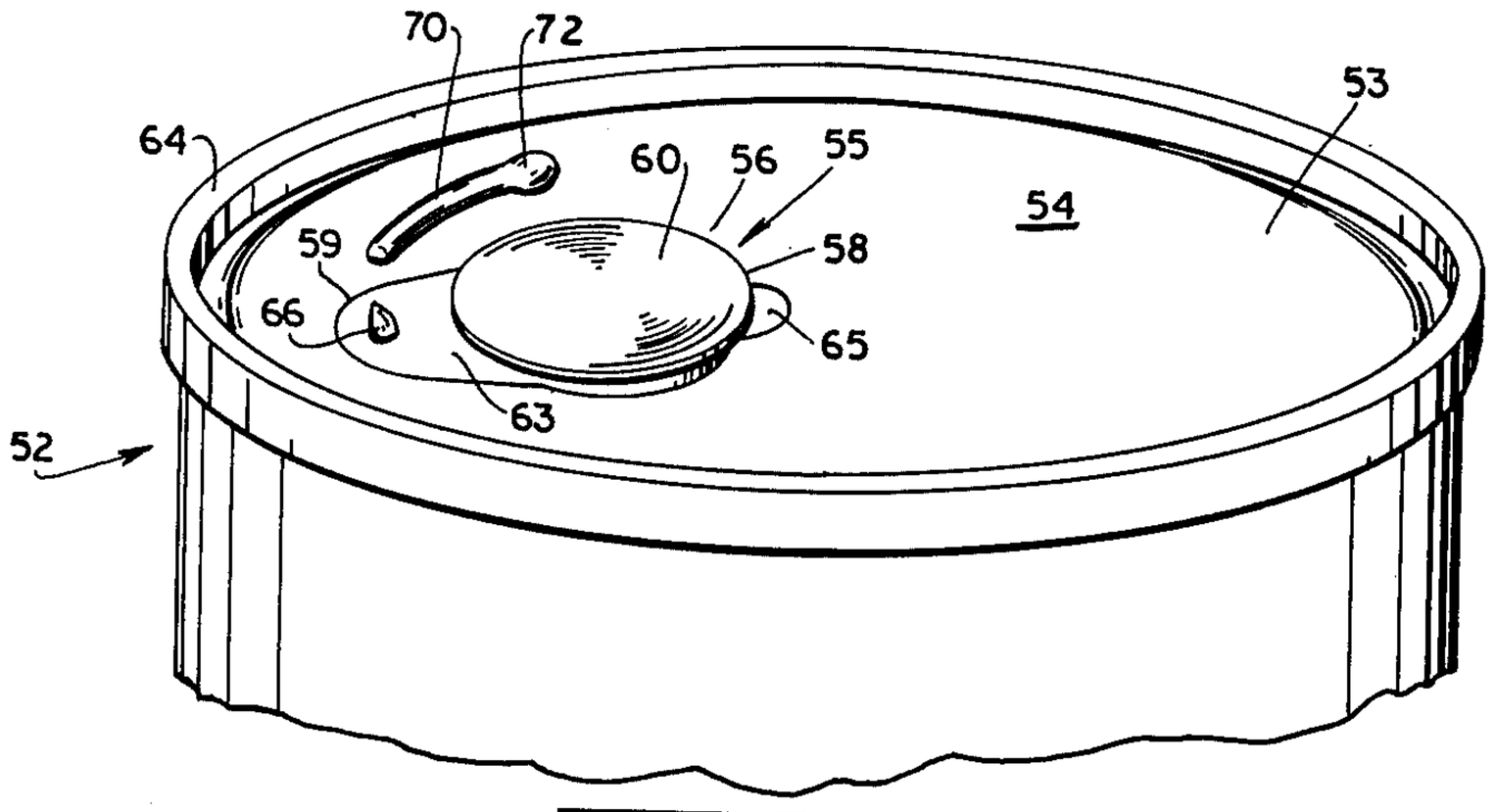


Fig. 6

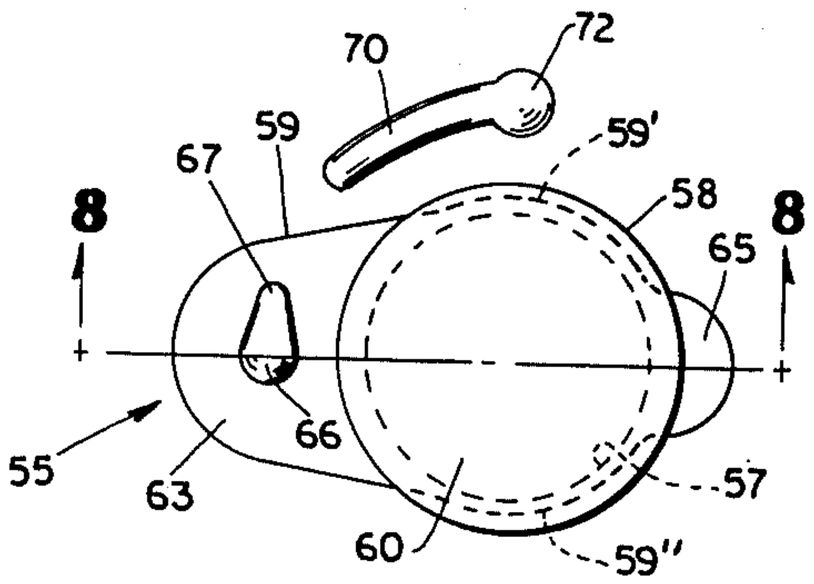


Fig. 7

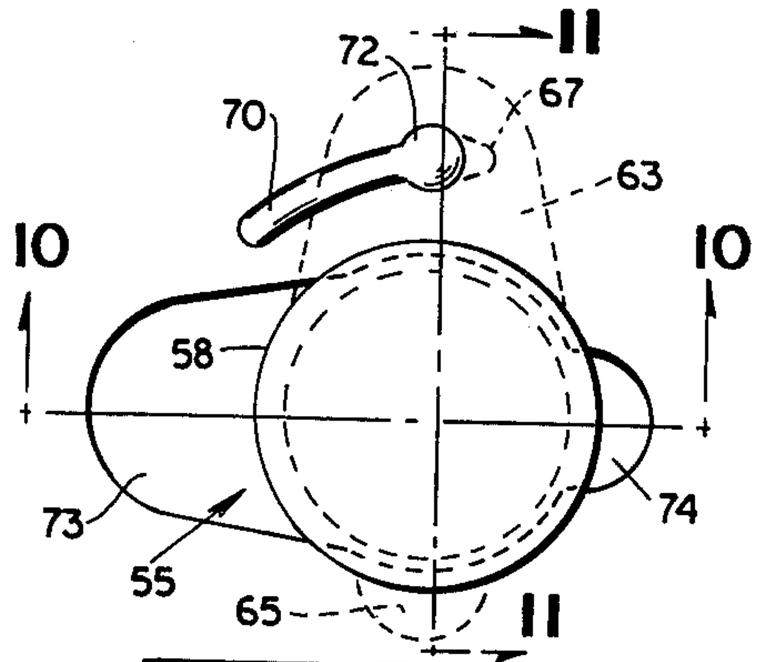


Fig. 9

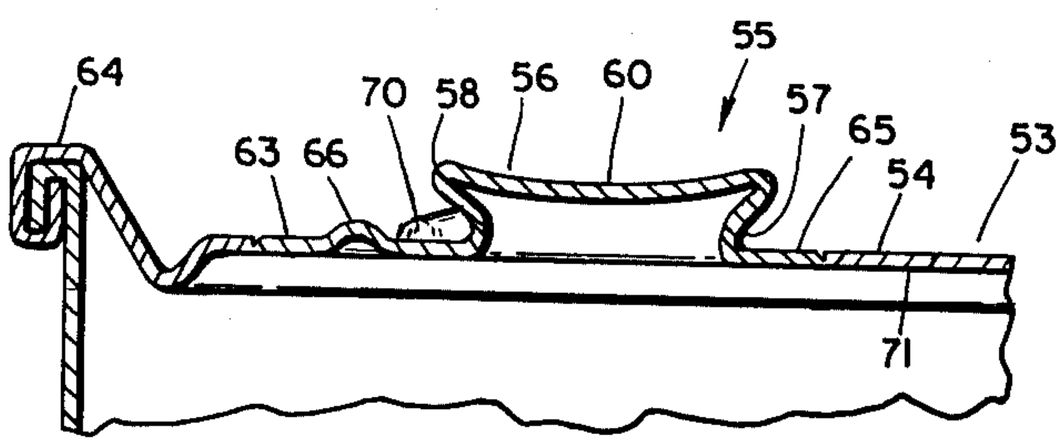


Fig. 8

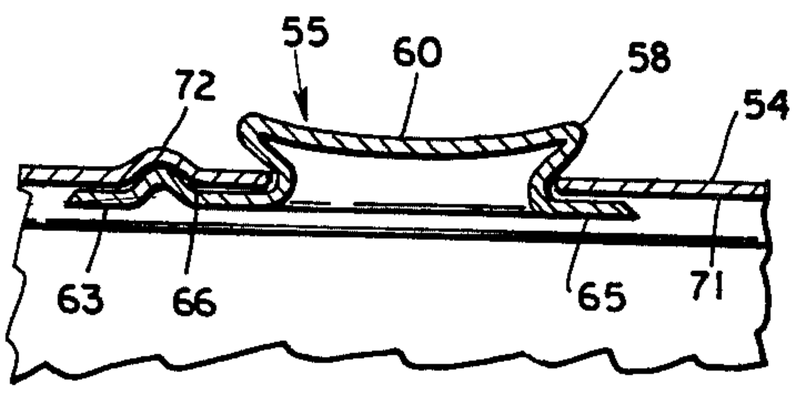


Fig. 11

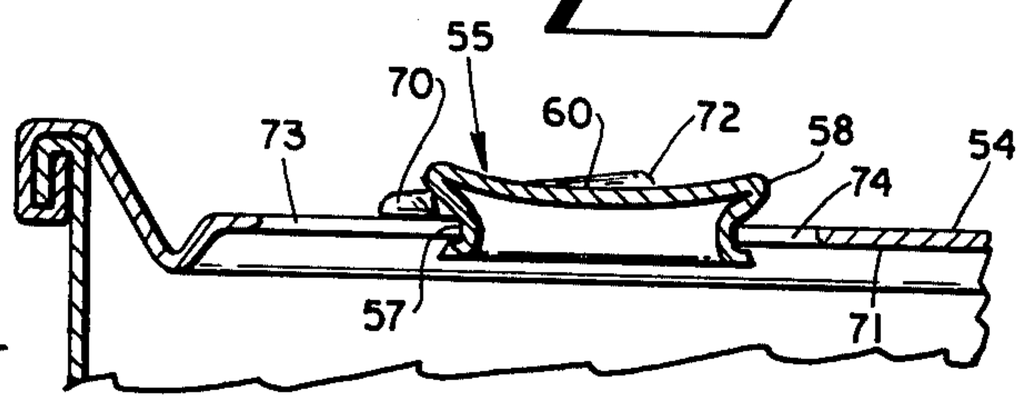


Fig. 10

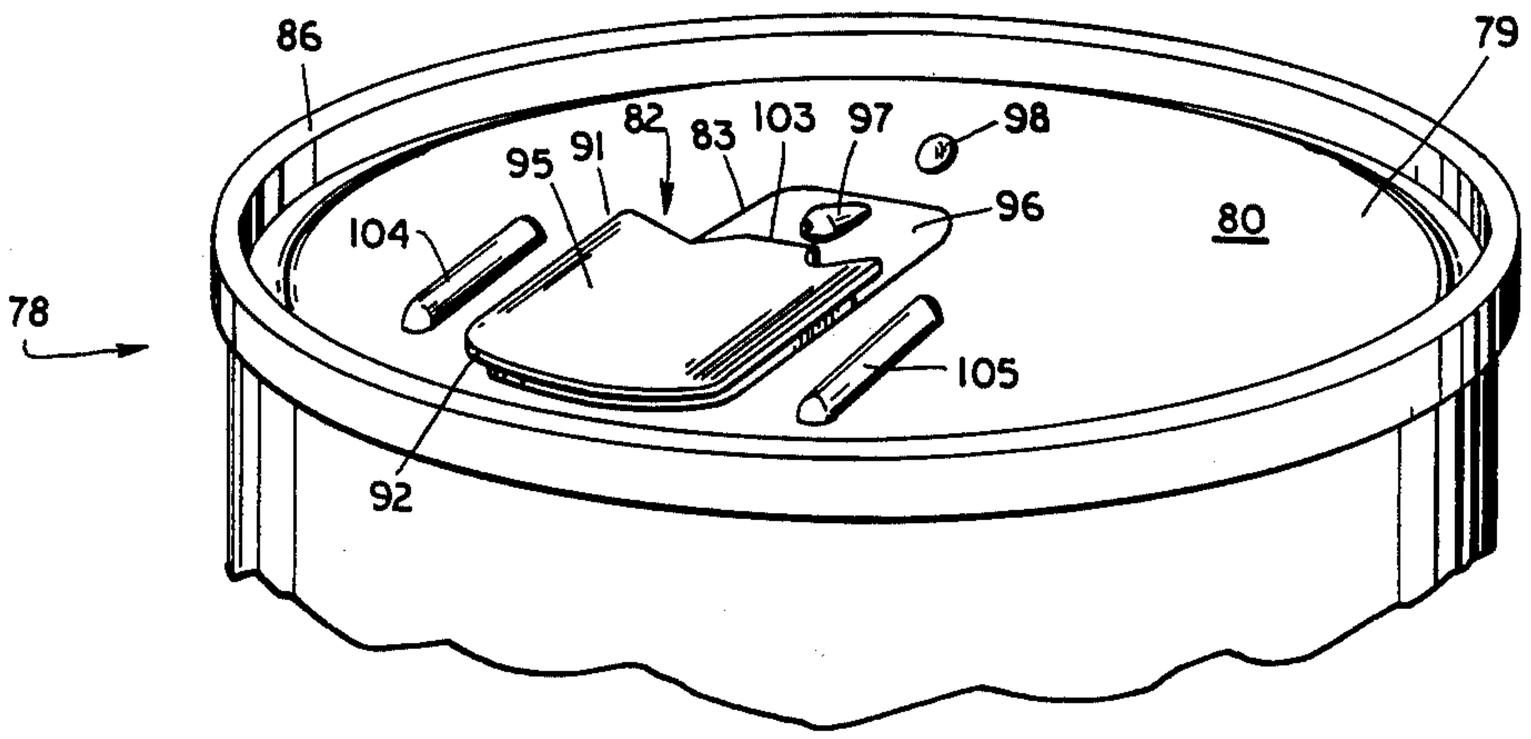
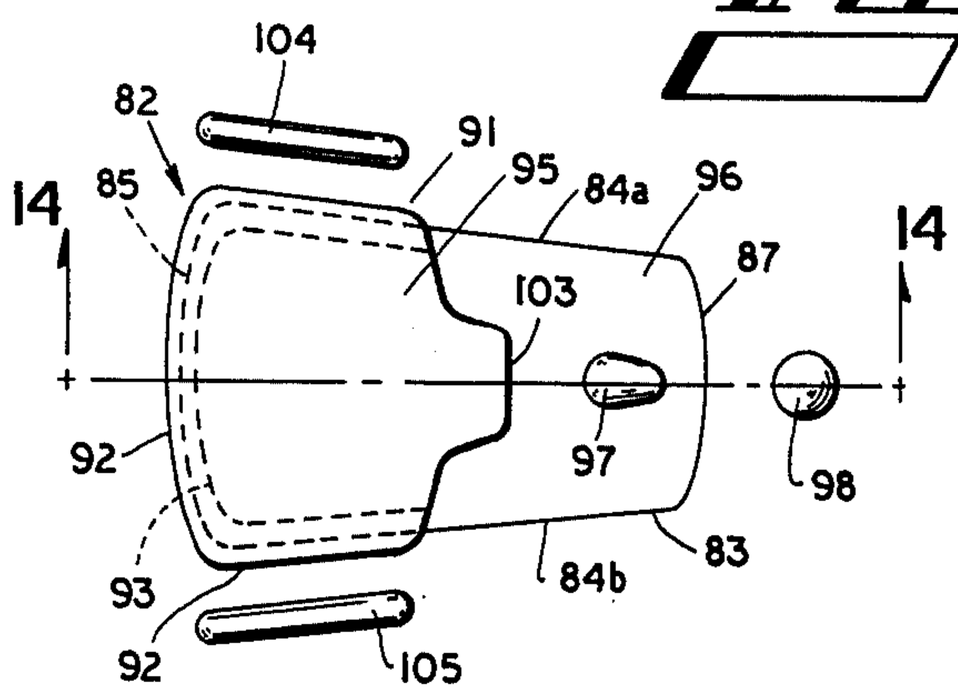


Fig_12



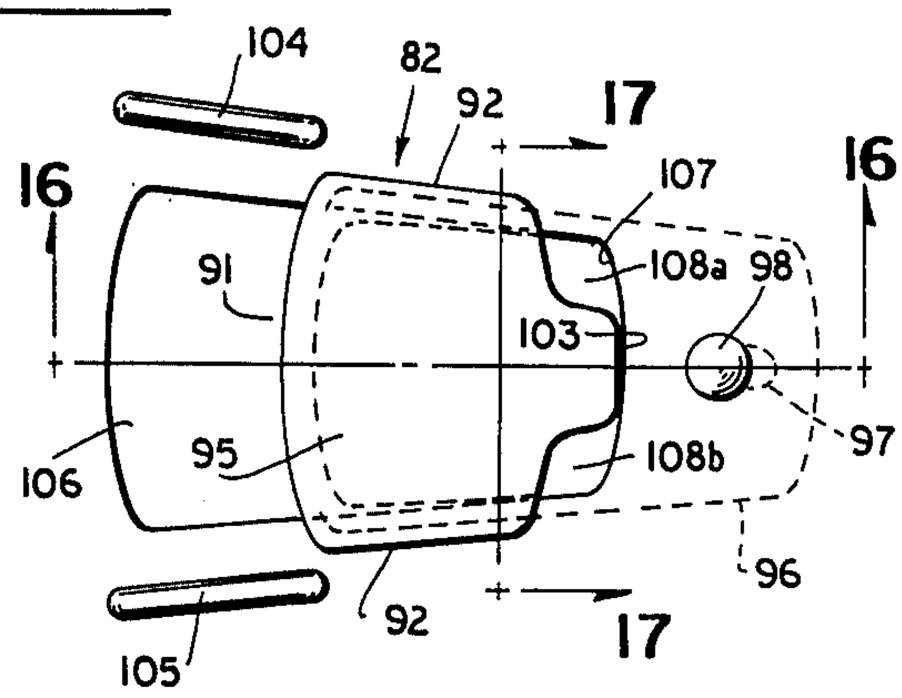
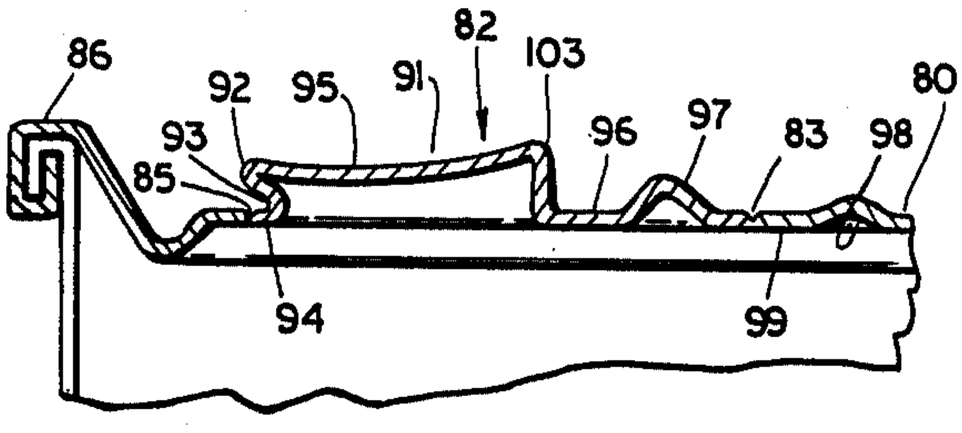


Fig_13

Fig_15



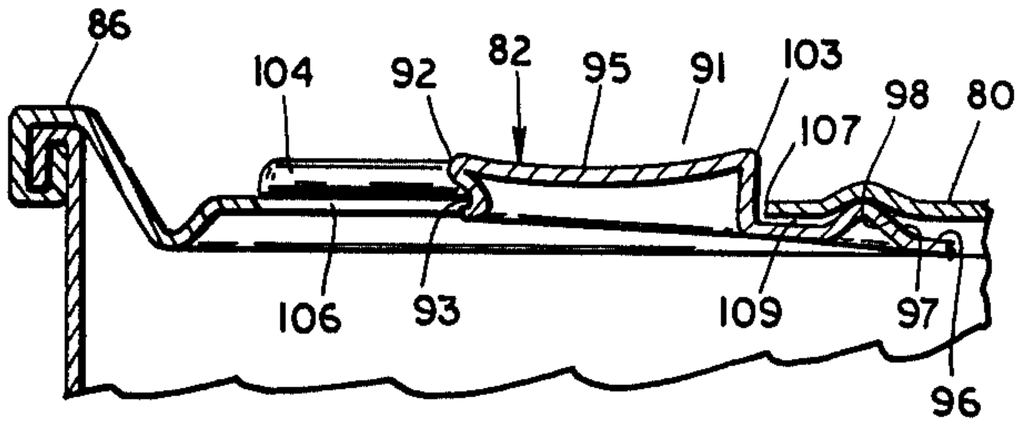
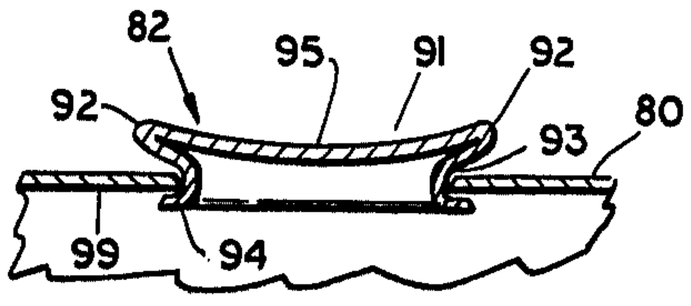


Fig_14

Fig_16

Fig_17



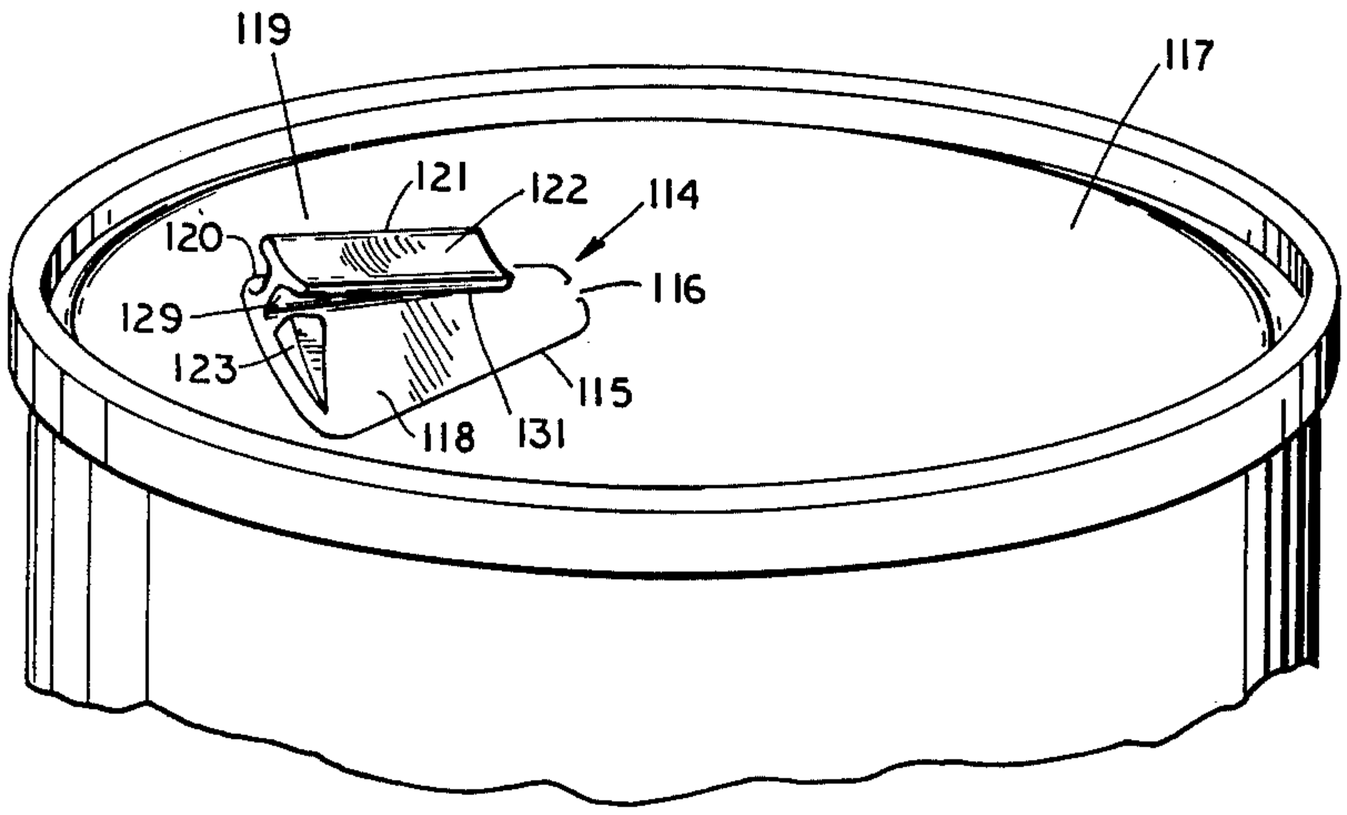


Fig_18

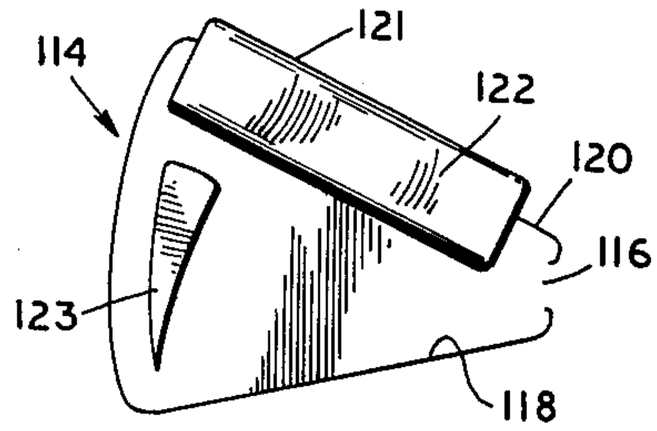


Fig_19

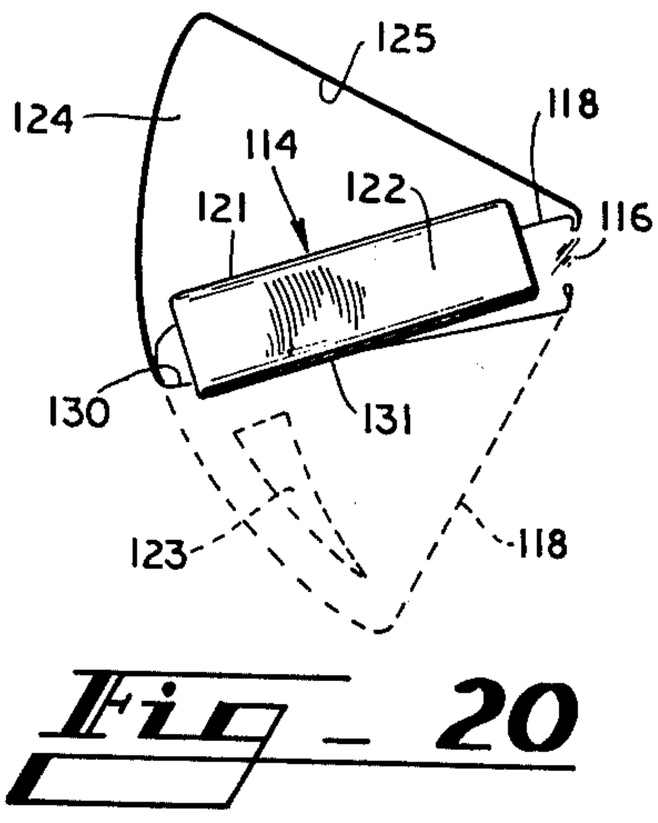


Fig_20

EASY-OPEN CONTAINER WITH FLANGE PUSH-IN MEMBER

This is a division of application Ser. No. 580,624, filed May 27, 1975, now U.S. Pat. No. 4,023,703.

This invention relates in general to containers and in particular to easy-open containers of the type typically used for commodities such as beverages and the like.

The widespread popularity of easy-open containers, particularly containers of the well-known "poptop" variety used for beverages and the like, has created problems because of the complete removability from the container of the tear tab or other easy-opening structure. The removable tear tabs, which usually have rough torn metal edges, have created a litter problem which is both unsightly and hazardous. Moreover, the relatively small size of the typical pop-top tear tab seemingly invites improper disposal of the tear tab, since such tabs are frequently found underfoot in even the more remote locations.

Notwithstanding the disadvantages of the removable tear tab which accompanies the conventional pop-top container, consumer acceptance of such containers is high because these containers are readily openable by people of nearly all ages, without resort to can openers or other external implements. Because of this popularity, numerous attempts have been made to provide alternative easy-opening containers which provide the advantages of the conventional pop-top while overcoming the aforementioned litter problem. Such prior art alternative containers are not known to have met with any degree of commercial success, however, because these containers proved difficult to open or were excessively expensive to manufacture. Moreover, some proposed easy-open containers present the user with the real or perceived possibility that his finger may suddenly be propelled through the sharp edges of an opening from which a tear tab has just been removed. Containers which present this hazard, whether real or merely perceived, have been completely unacceptable to beverage manufacturers as well as consumers in test market situations.

According to the present invention, accordingly, there is provided a unique and novel easy-open container in which an openable member integral with a wall of the container is defined in the wall by a selectively separable region of predetermined weakness. The openable member is formed to have an opening tab which extends outwardly from the container wall, and a recess may be defined in the opening tab for receiving finger pressure directed inwardly toward the container wall. A portion of the openable member overhangs the selectively separable region to limit the inward movement of the separated openable member, thereby preventing entry of the button and one's finger into the opening which is provided by rupture of the separable region. The separated opening member can thereafter either be completely removed from the container wall, or can alternatively be retained on the container wall by appropriate structural means; the retained openable member is selectively displaceable relative to the container wall for access to the contents of the container.

Accordingly, it is an object of the present invention to provide improved easy-open container apparatus.

It is another object of the present invention to provide improved easy-open container apparatus in which a separable opening member is retained on the opened container.

It is yet another object of the present invention to provide an easy-open container of relatively economical construction, in which the openable portion cannot be detached from the remainder of the container.

It is still another object of the present invention to provide an easy open container wall of unitary construction.

It is a further object of the present invention to provide an easy-open container in which the opening structure has neither the real nor the apparent capability of allowing a person's finger to accidentally enter the container during opening.

Other objects and advantages of the present invention will become more readily apparent from the following description of several disclosed embodiments thereof, including the drawings in which:

FIG. **1** shows a fragmentary pictorial view of a container including an end wall provided with easy-opening structure according to one disclosed embodiment of the present invention;

FIG. **2** shows a top plan view of the container end shown in FIG. **1**;

FIG. **3** is an elevation view taken along line **3—3** of FIG. **2**;

FIG. **3A** is an enlarged fragmentary view of the score line used in the embodiment of FIG. **3**;

FIG. **4** is a top plan view of an opened container of the type shown in FIG. **1**;

FIG. **5** is a section view taken along line **5—5** of FIG. **4**;

FIG. **5A** is an enlarged fragmentary view of the score line of FIG. **3A**, immediately after becoming separated;

FIG. **6** is a fragmentary pictorial view of a container provided with easy-open structure according to another disclosed embodiment of the present invention;

FIG. **7** is a top plan view of the embodiment shown in FIG. **6**;

FIG. **8** is a section view taken along line **8—8** of FIG. **7**;

FIG. **9** is a top plan view showing the embodiment of FIG. **6** in opened position;

FIG. **10** is a section view taken along line **10—10** of FIG. **9**;

FIG. **11** is a section view taken along line **11—11** of FIG. **9**;

FIG. **12** is a fragmentary pictorial view of a container provided with easy-open end structure according to still another disclosed embodiment of the present invention;

FIG. **13** is a top plan view of the embodiment shown in FIG. **12**;

FIG. **14** is a section view taken along line **14—14** of FIG. **13**;

FIG. **15** is a top plan view of the embodiment shown in FIG. **12**, in fully-opened position;

FIG. **16** is a section view taken along line **16—16** of FIG. **15**;

FIG. **17** is a section view taken along line **17—17** of FIG. **15**;

FIG. **18** is a fragmentary pictorial view of a container provided with easy-opening end structure according to yet another disclosed embodiment of the present invention;

FIG. **19** is a top plan view of the embodiment shown in FIG. **18**;

FIG. **20** is a top plan view of the embodiment shown in FIG. **18**, in opened position;

Turning first to the embodiment shown in FIGS. **1–5**, there is shown a fragmentary container indicated gener-

ally at **10** and having a generally cylindrical body wall **11** and an end wall **12** secured to the body wall by the peripheral chime **13** which extends a short distance beyond the outside surface **14** of the end wall, in a manner well-known to those skilled in the art. It will be understood that the non-depicted portion of the container **10** includes the remainder of the body wall **11** and another end wall, which may be formed integrally with the body wall or which may alternatively be a separate end member which is fastened to the body wall.

Located in the end wall **12** is the openable member indicated generally at **18** and defined in the end wall by the line **19** of predetermined structural weakness formed in the end wall. Assuming that the end wall **12** is made of thin metal such as aluminum or the like, the line of weakness **19** can be provided by a score line which is stamped into the wall in a manner known to those skilled in the art. The score line **19** may extend only partially through the thickness of the end wall **12**, as best shown in FIGS. **3** and **3A**, or may alternatively be a repaired score in which the openable member **18** is initially severed from the end wall at the time of manufacture, after which the severed end wall is repaired by applying a suitable sealant composition along the line of severing at the inside surface **20** of the end wall. Various types of metal scoring techniques and metal weakening techniques used in easy-open container construction are known to those skilled in the art and, with an exception below, are repeated in further detail herein.

The line of weakness **19**, hereinafter called a "score line" without regard to its manufacturing technique, which defines the openable member **18** is an uninterrupted line, so that the openable member is completely separated from the remainder of the end wall **12** when the score line becomes separated. The score line **19**, in the embodiment of FIGS. **1–5**, thus defines the openable member as including an arcuate portion defined by the score line segment **19'** which, in the presently-discussed embodiment, is curvilinear and extends over slightly more than 180° to join at **23***a* and **23***b* with the remainder of the score line which defines a tab section **24** extending generally toward the center of the end wall **12**. The tab section **24**, in the present embodiment, includes and is defined in part by a pair of spaced-apart sides **25***a* and **25***b* and by the outer end **26**.

Formed in the tab section **24** is an outwardly-extending locking detent **27**, which is aligned with a mating locking dimple **28** formed in the inside surface **20** of the end wall **12**. The purpose and operation of the locking detent **27** and the locking dimple **28** are explained below. Both the locking detent **27** and the locking dimple **28** are preferably formed by a stamping operation during the manufacture of the end wall **12**.

The openable member **18** is also provided with an opening tab in the form of a button **32** which, in the disclosed embodiment, is an integral part of the openable member and which is spaced a distance above the outside surface **14** of the end wall **12**. The outermost extent of the button **32** preferably is below the chime **13**, however, as best seen in FIG. **3**. The outwardly-extended button **32** is defined by a peripheral wall **33** which is deformed from the nominal plane of the end wall **12** to extend outwardly a distance from the end wall; the button is further formed and defined by a flange **34** which, in the embodiment of FIGS. **1–5**, overhangs substantially the entire arcuate score line segment **19'**. The overhanging relation of the flange **34** and the score line segment **19'** is best shown in FIGS. **2** and **3**. The top of the button **32** is domed inwardly at **35** to provide a convenient recess for receiving the finger or thumb of a person opening the container. The wall **33** is necked inwardly from the score line to form a channel which allows the openable member **18**, when separated from the end wall **12**, to be moved with respect to the end wall.

A detailed view of the scoring used for the embodiments of FIGS. **1–5** is shown in FIG. **3A**, showing that the score line **19'** (as well as at **19**) has an assymmetrical cross-section. One side **38** of the score **19'** is substantially perpendicular to the outside surface **14** of the end wall, while the other side **39** of the score is diagonally inclined from the outside surface to form an acute angle with the vertical side **38**. The purpose of the particular depicted scoring is made apparent below, although it will become apparent that alternative scoring techniques may be employed. Those skilled in the art will recognize that the type of scoring shown in FIG. **3A** is sometimes known as the "Alcoa B-**48**" score, wherein the diagonal side **39** and the perpendicular side **38** meet at an included angle in the order of 45°.

The operation of the embodiment described in FIGS. **1–5** is now discussed. A person desiring to open the container **10** must press downwardly with a thumb or finger on the domed region **35** of the button **32**, and this downward pressure exerts a force on the score line **19** (including the segment **19'**) which causes the score line to rupture; the openable member **18** thus becomes separated from the end wall **12**. Rupturing of the score line **19** in the disclosed embodiment is enhanced by the off-center location of the button **32**, relative to the longitudinal extent of the openable member **18** as viewed in FIG. **3**. When the off-center button **32** is pressed inwardly toward the end wall **12**, the force applied to the button is unevenly distributed throughout the score line **19**, and concentrations of force-induced stress will occur at one or more locations along the score line. The score line initially ruptures at a point or points of stress concentration, and the resulting initial rupture allows the openable member **18** to undergo a degree of inward movement, relative to the end wall **12**, which produces more stress and causes the remainder of the score line **19** to become ruptured.

As soon as the score line **19** is ruptured, the openable member **18** can move inwardly toward the outside surface **14**. However, the extent of inward movement is limited by the flange **34**, which overhangs the score line segment **19'** and which has moved into contact with the outside surface **14** surrounding the peripheral edge **42**. This contact is best seen in FIG. **5A**. Since the opener's finger was placed on the domed area **35** to press the button **32** downwardly, it is apparent that the finger cannot inadvertently enter the opening **43** in the end wall **12** at this time and, indeed, cannot even contact the roughened peripheral edge **42** which is presently beneath the overhanging flange **34**.

It is also apparent from FIG. **5A** that the diagonal side **39** of the score **19** became ruptured along a surface **44** which is substantially a continuation of the diagonal surface, with the result that the surface **44** underhangs the peripheral edge **42** of the opening **43** to an extent which prevents the openable member **18** from being completely detached from the end wall **12** by pulling the opening structure outwardly through the opening. As a result, the openable member **18**, although now separated from the end wall **12**, remains captivated by the end wall.

The opening procedure is completed by sliding the openable member a distance to the right (as viewed in FIGS. **4** and **5**) so that the openable member becomes displaced from a portion of the opening **43**. This displacement occurs as the tab section **24** slides beneath the end wall **12**, with the locking detent **17** being moved into detent engagement with the locking dimple **28** as shown in FIG. **5**. Opening of the container **10** is now completed, and the contents of the container may be poured or consumed directly from the container opening **43** in the manner known to those skilled in the art.

The longitudinal sliding of the openable member **18** is facilitated by the closely-spaced sliding connection between the channel provided by the necked peripheral wall **33** of the openable member, and the spaced-apart peripheral edges **45***a* and **45***b* which remain when the sides **25***a* and **25***b* of the tab **24** became separated from the end wall **12**. The spacing between the two sides **45***a* and **45***b*, relative to the corresponding distance across the necked peripheral wall **33**, must be sufficient to allow the aforementioned longitudinal sliding movement without being so large as to permit the openable member **18** either to be withdrawn completely from the end wall **12**, or to fall through the opening **43** into the interior of the container **10**. The spacing between the sides **45***a* and **45***b* is slightly reduced from the maximum diameter of the arcuate of the score line segment **19'**, as best shown in FIG. **2**, to facilitate retention of the opening structure **17**.

The height of the locking detent **27**, relative to the depth of the locking dimple **28** in the inside surface **20**, causes the tab section **24** to be disposed downwardly a distance below the inside surface as shown in FIG. **5**, so that a space **46** is provided between the inside surface of the end wall and the tab section to vent air into the container **10** as the contents of the container are being poured or consumed through the opening **43**.

Reviewing the operation of the embodiment shown in FIGS. **1–5**, the openable member **18** has been separated from its previous integral relation with the end wall **12** and has been moved longitudinally of the end wall to be locked in an opened position allowing access to the contents of the container. The openable member **18** remains captivated on the end wall **12** of the container, however, and the openable member cannot fall into the interior of the container. The flange **34** prevents the button **32** and the user's finger from coming into engagement with the peripheral edge **42** of the opening **43** in the container, and the presence of the flanged button **32** provides psychological as well as actual assurance that the container can be manually opened with no risk of personal injury.

It may be desired to form the smile beads **47** and **48** on either side of the button **32**, to prevent the openable member **18** from becoming inadvertently opened when a number of the containers **10** are being vertically stacked. The smile beads **47** and **48** should preferably extend outwardly from the outside surface **14** of the end wall **12** to extend just beyond the outermost extent of the button **32**. The smile beads **47** and **48** may also have a desirable stiffening effect on the end wall **12** surrounding the openable member, although in some applications it may be desirable to forego the smile beads.

The embodiment of the present invention shown in FIGS. **6–11** has an openable member which is rotatable to expose the opening into the container, rather than sliding as in the previously-described embodiment. Turning to FIG. **6**, there is shown a container indicated generally at **52** and including an end wall **53** having an outside surface **54**. An openable member indicated generally at **55** is defined in the end wall **53** by the score line **59**, and the openable member is preferably integral with the end wall in a manner similar to the previous embodiment. The openable member includes an opening tab in the form of a button **56** which extends a distance outwardly from the outside surface **54** of the end wall **53**, with the button **56** being formed above and integrally with the necked channel provided by the annular peripheral wall **57**. A flange **58** is formed on the button **56** surrounding and spaced outwardly from the peripheral wall **57**, and it is apparent in FIG. **7** that the flange **58** overhangs curvilinear segments **59'** and **59''** of the score line **59** which defines the openable member **55** in the end wall **53**. An inwardly-domed depression **60** in the button **32** provides a finger-receiving area.

The openable member **55** has a first tab section **63** which extends from the button **56** a distance toward the chime **64** of the container **52**. The openable member **55** also has a second tab section **65** which extends from the button **56** a distance toward the center of the end wall **53**. A locking detent **66** is formed in the first tab section **63** to extend a distance outwardly from the outside surface **54** of the end wall **53**, and it can be seen from FIG. **7** that the locking detent **66** may have a narrow end **67** directed approximately at right angles to the longitudinal axis defined by the tab section **63** and the button **56**.

A locking track **70** is formed in the end wall **53** to extend upwardly from the inside surface **71** of the end wall. The locking track **70** is arc-shaped and is situated on the end wall **53** to receive the locking detent **66** when the openable member **55** is separated from the end wall **53** and rotated, as described below. The locking track **70** has an enlarged area **72** at one end, to receive and retain the locking detent **66**.

The operation of the embodiment shown in FIGS. **6–11** is now described. The openable member **55** is initially separated from the end wall **53** in substantially the same manner as previously described, namely, by pressing downwardly on the domed depression **60** with finger or thumb. The resulting inwardly-directed force applies stress to rupture the score line **59**, so that the openable member **55** becomes separated from the remainder of the end wall **53** and moves inwardly toward the end wall **53**. The flange **58** contacts the overhung portions of the outside surface **54** which are adjacent the former score segments **59'** and **59''**, thereby preventing the button from entering the opening **73** in the end wall.

The button **56** is now grasped by the flange **58** and the openable member **55** is rotated clockwise approximately 90° to the position shown in broken lines in FIG. **9**, so that the first tab section **63** and the second tab section **65** are disposed beneath the end wall **63** of the container **52**. The necked channel provided by the peripheral wall **57** allows the openable member **55** to be rotatably received within the confronting curvilinear edges provided by the former score segments **59'** and **59''**. Such rotation of the openable member **55** moves the locking detent **60** along the inside surface **71** of the end wall **53** to enter and move along the locking track **70**, until the locking detent enters and is retained in the enlarged area **72** at the end of the locking track.

Opening of the container **52** is now completed, and a pair of openings **73** and **74** remain in the end wall **53** by separation and displacement of the respective tab sec-

tions **63** and **65**. The larger opening **73**, being closer to the chime **64** of the container **52**, provides a drinking or pouring opening while the opening **74** provides an air vent into the container. As with the embodiment described in FIGS. **1–5**, the openable member **55** cannot enter the container **52** and the flange **58** protects fingers from inadvertently contacting the peripheral edges of the openings while the button **56** is being forced downwardly to sever the score line **59**. The embodiment of FIGS. **6–11** can also be provided with the score structure shown in FIGS. **3A** and **5A**, if desired, to captivate the openable member **55** onto the end wall **53**.

Still another disclosed embodiment of the present invention is shown in FIGS. **12–16**, wherein the container shown generally at **78** has an end wall **79** with an outside surface **80** on which is disposed an openable member indicated generally at **82**. Although the openable member **82**, which is defined by an uninterrupted score line **83**, becomes completely detached from the end wall **79** during opening and thereafter slides toward the center of the end wall, as does the embodiment shown in FIGS. **1–5**, the openable member **82** of the presently-discussed embodiment has no curvilinear or arcuate portions. Instead, the openable member **82** is defined by score line portions **84***a* and **84***b* which taper inwardly from a relatively wide end score line **85**, positioned adjacent the chime **86** of the container, to the relatively narrow inner end score line portion **87**, which is positioned toward the center of the end wall **79**. The score line portions **84***a* and **84***b*, accordingly, form a wedge-shaped pair of nonparallel score line segments which converge toward the inner segment **87** of the score line.

A button **91** forms an opening tab which is integrally formed on the openable member **82** at the end nearest the wide score line portion **85**, with the button **91** being raised above the outside surface **80** of the end wall **79**. As best shown in FIG. **14**, the button **91** has a peripheral flange **92** which is spaced above the outside surface **80** and which overhangs the end score portion **85**, as well as parts of the side score line portions **84***a* and **84***b*.

The button **91** is necked inwardly beneath the flange **92**, as shown at **93**, to define a sliding channel located between the flange and the segment **94** of the openable member which extends forwardly to the score line **83**.

An inward concave area **95** is provided on the top of the button **91** to receive finger or thumb pressure during opening. As particularly shown in FIG. **14**, the concave area **95** may be skewed somewhat toward the forward score line portion **85** to provide an even more unequal distribution of stress on the score line **83** when the button **91** is pressed downwardly.

Extending from the button **91** toward the center of the end wall **79** is the tab portion **96**, which is bounded by the side score line portions **84***a* and **84***b* and the end score line portion **87**. A locking detent **97** extends outwardly from the outer surface of the tab portion **96**, and a mating locking dimple **98** is formed in the inside surface **99** of the end wall **79**. A stop member **103** is formed on the rear of the button **91**, facing toward the center of the end member **79**, with the stop member extending above the outside surface of the tab portion **96** at a predetermined location relative to the tab portion.

A pair of smile beads **104** and **105** may be formed in the end wall **79** in opposed flanking relation alongside the button **91**. The smile beads **104** and **105**, if provided, preferably extend upwardly from the outside surface **80** sufficiently to extend just above the outermost point of the button **91**, so that the openable member **82** is protected from inadvertent opening when containers are vertically stacked.

The opening operation of the embodiment shown in FIGS. **12–16** is now discussed. Opening is initiated substantially in the manner discussed above with previous embodiments, with the entire score line **83** being ruptured by downward pressure applied to the concave area **95** of the button **91**. After the score line is ruptured, the entire openable member **82** moves downwardly until the overhanging flange **92** contacts the area of the outside surface **80** which surrounds the score line side portions **84***a* and **84***b*, as well as the front end score line portion **85**, thus preventing further movement of the openable member into the container. The tab portion **96** is now below the inside surface **99** of the end wall **79**, and the openable member **82** is free to be moved back toward the center of the end wall to expose the opening **106** into the container.

The openable member **82** is moved back until the locking detent **97** is received in the locking dimple **98**, as shown in FIG. **16**, to retain the openable member in the fully-open position. The stop member **103** is positioned to be in substantial abutting contact with the innermost edge **107** of the opening **106** when the openable member is fully open. The areas **108***a* and **108***b* of the tab portion **96** are now in air vent communication into the container **78** through the space **109** (FIG. **16**) maintained between the inside surface **99** of the end wall **79** and the tab portion by contact of the locking detent **97** within the dimple **98**.

As seen in FIGS. **15** and **17**, the backward sliding movement of the separated openable member **82** causes the inwardly-necked channel **93** of the button **91** to become received even more positively between the confronting peripheral edges of the opening **106** in the end wall **79**. This interlocking relation between the channel **93** and the end wall of the container further ensures that the openable member **82** cannot become detached from the end wall after opening. The embodiment of FIGS. **12–17** can be provided with the inwardly-beveled score construction previously described with respect to FIGS. **3A** and **5A**, to provide further assurance that the opening structure **81** will remain captivated to the end wall **79** of the container.

Although the above-described embodiments of the present invention utilize an openable member which is defined by an uninterrupted score line, so that the openable member becomes completely separated from the wall of the container upon opening, the embodiment shown in FIGS. **18–20** utilizes an openable member indicated generally at **114** and defined by a score line **115** which is interrupted at **116** by unweakened end wall material so that the openable member remains attached to the end wall **117** when the score line **115** becomes ruptured.

The openable member **114**, as defined on the end wall **117** by the score line **115**, includes a tab **118** of approximately sector shape, as best seen in FIG. **19**. A button **119** forms an opening tab which extends upwardly along one side **120** of the tab **118**, with the button having a flange **121** which overhangs the end wall adjacent the side **120**. A generally concave depression **122** is formed along the top surface of the button **109** to receive finger or thumb pressure. A wedge-shaped detent **123** extends outwardly from the outside surface of the tab **118**.

Opening of the embodiment shown in FIGS. **18–20** is initiated by pressing downwardly on the button **119**, whereupon the score line **115** becomes severed and the openable member **114** moves downwardly until the flange **121** contacts the end wall **117** adjacent the edge **125** of the opening **124**. The openable member **114** remains attached to the end wall **117** by the interrupted portion **116**, which does not become ruptured with the score line. The openable member **117** is now pivoted around a hinge provided by the interrupted portion **116** to slide the tab **118** beneath the end wall **117**, as shown by broken line in FIG. **20**, so that the opening **124** into the container is exposed. The interrupted portion **116** should be sufficiently flexible to permit the foregoing pivotal movement of the openable member **114**. The side **129** of the button **119** provides a motion stop which engages the edge **130** of the opening **124** when the opening structures **114** is in fully-open position, and a second overhanging flange **131** may be provided on the button **119** to overhang the side **129** and prevent the button (and the finger of a user) from being inadvertently pressed downwardly into contact with the sharp edge **130**. The raised detent **123** maintains the tab **118** spaced apart from the underside of the end wall **117**, for venting purposes.

It will further be obvious that the foregoing relates only to disclosed embodiments of the present invention, and that numerous alterations and modifications may be made therein without departing from the spirit and the scope of the invention as defined in the following claims.

What is claimed is:

1. Easy opening container wall apparatus having unitary opening structure, comprising:

a wall having an outer side and an inner side;

an openable member defined in said wall by a selectably separable region of weakness;

an opening tab integrally formed with said openable member and extending a distance above said outer side, said opening tab having a portion which overhangs at least a portion of said separable region; and

said opening tab being formed in said openable member so that said opening tab is a unitary portion of said openable member.

2. Apparatus as in claim **1** wherein said opening tab has a force receiving area to receive an externally applied force directed toward said openable member, so that said force is applied to initiate separation of said separable region.

3. Apparatus as in claim **1**, wherein said unitary opening tab defines a peripheral wall which is necked inwardly from said separable region, and which is disposed between said openable member and said overhanging portion.

4. Apparatus as in claim **3**, further comprising means associated with said separable region to provide an opening which prevents withdrawal of said separated openable member from said opening.

5. Apparatus as in claim **1**, wherein said selectably separable region completely surrounds said openable member, so that said openable member becomes completely separated from the remainder of said wall upon separation of said separable region, whereupon said overhanging portion of said opening tab moves into contact with said outer side of said wall to prevent said openable member from freely entering said container.

6. Easy opening container apparatus comprising:

a container wall having an outer side and an inner side;

an openable member defined in said wall by a selectably separable region of weakness; and

an opening tab which is an integral part of said openable member and which is spaced a distance above said outer side of said container wall to overhang at least a portion of said separable region, so that said overhanging opening tab moves toward said wall to contact said outer side and prevent said openable member from freely entering said container wall upon separation of said separable region.

7. Apparatus as in claim **6**, wherein said integral opening tab comprises:

a peripheral wall which is located on said openable member a distance inside of said separable region, and which extends outwardly a distance from said outer side of said container wall; and

a flange which is an extension of said peripheral wall and which extends outwardly from said peripheral wall to overhang at least a portion of said separable region,

so that said peripheral wall and said flange define a channel for slidingly engaging the peripheral edge which is formed in said container wall upon separation of said separable region.

8. Apparatus as in claim **6**, wherein said separable region is operative upon separation to provide an opening having peripheral means which obstructs withdrawal of said separated openable member from said opening.

9. Apparatus as in claim **6**, wherein:

said openable member includes a portion which is not occupied by said opening tab; and

said opening tab is spaced above said outer wall at least a sufficient distance to allow said unoccupied portion of said openable member to be displaced below the inner side of said container wall upon separation of said separable region,

so that said unoccupied portion of the separated openable member can be displaced beneath said container wall by manipulation of said opening tab to expose a portion of the opening which is provided in said container wall upon separation of said separable region.

10. Apparatus as in claim **9**, further comprising means associated with said container wall for retaining said separated openable member in said displaced relation with said container wall.

11. Apparatus as in claim **6**, wherein:

said opening tab is positioned to enable a portion of said openable member to move below said inner side of said container wall upon separation of said separable region, so that an opening in said container wall can be exposed by manipulating the separated openable member to displace said portion thereof beneath said container wall.

12. Apparatus as in claim **11**, wherein said separable region is operative upon separation to provide an opening having peripheral means which obstructs withdrawal of said separated openable member from said opening.

13. Apparatus as in claim **11**, wherein said openable member is elongated and has an intermediate portion that is defined by a curvilinear extent of said separable region; and

said opening tab overhang includes means to support said separated openable member for rotation about

said curvilinear extent, so as to displace said portion of said openable member beneath said container wall.

14. Apparatus as in claim **11**, wherein:

separable region includes a pair of opposed and spaced-apart mutually convergent portions;

said opening tab overhang comprises surface means positioned to be received between the convergent edges that are provided by said convergent portions when said separable region becomes separated; and

said surface means is operative to engage said convergent edges when said separated opening slidably displaced so as to displace said portion of said openable member beneath said container wall, so that the maximum extent of said sliding displacement is limited by engagement between said surface means and said convergent means.

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